

Form 1449 (M dified)	FEB 27 2001	Atty Docket N SRIIP026/US-4152-2	Application No.: 09/619,847
Information Disclosure Statement By Applicant		Applicant: Pei <i>et al.</i>	
(Use Several Sheets if Necessary)		Filing Date July 20, 2000	

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Subclass	Filing Date
	A1	5,902,836	05/11/99	Bennet <i>et al.</i>			08/23/95
	A2	5,229,979	07/20/93	Scheinbeim <i>et al.</i>			12/13/91
	A3	5,642,015	06/24/97	Whitehead <i>et al.</i>			05/01/95
	A4	5,835,453	11/10/98	Wynne <i>et al.</i>			05/05/97

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TMD	A5	Aramaki, S., S. Kaneko, K. Arai, Y. Takahashi, H. Adachi, and K. Yanagisawa. 1995. "Tube Type Micro Manipulator Using Shape Memory Alloy (SMA)," <i>Proceedings of the IEEE Sixth International Symposium on Micro Machine and Human Science</i> , Nagoya, Japan, pp. 115-120.
	A6	Bharti, V., Y. Ye, T.-B. Xu and Q. M. Zhang, "Correlation Between Large Electrostrictive Strain and Relaxor Behavior with Structural Changes Induced in P(VDF-TrFE) Copolymer by electron Irradiation," <i>Mat. Res. Soc. Symp. Proc. Vol 541</i> , pp. 653-659 (1999).
	A7	Bobbio, S., M Kellam, B. Dudley, S. Goodwin Johansson, S. Jones, J. Jacobson, F. Tranjan, and T. DuBois, "Integrated Force Arrays," in <i>Proc. IEEE Micro ElectroMechanical Systems Workshop</i> , Fort Lauderdale, Florida February 1993.
	A8	Caldwell, D., G. Medrano-Cerda, and M. Goodwin, "Characteristics and Adaptive Control of Pneumatic Muscle Actuators for a Robotic Elbow," <i>Proc. IEEE Int. Conference on Robotics and Automation</i> , San Diego, California (8-13 May 1994).
	A9	Calvert, P. and Z. Liu, "Electrically stimulated bilayer hydrogels as muscles," <i>Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices</i> , March 1-2, 1999, Newport Beach, California, USA, pp. 236-241.
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	A11	De Rossi, D., and P. Chiarelli. 1994. "Biomimetic Macromolecular Actuators," <i>Macro-Ion Characterization, American Chemical Society Symposium Series</i> , Vol. 548, Ch. 40, pp. 517-530.
	A12	Egawa, S. and T. Higuchi, "Multi-Layered Electrostatic Film Actuator," <i>Proc. IEEE Micro Electra Mechanical Systems</i> , Napa Valley, California, pp. 166-171 (February 11-14, 1990).
	A13	Fall, R. J. and K. Meijer, "Artificial Muscles Versus Natural Actuators From Frogs To Flies," <i>Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference</i> , March 6-8, 2000, Newport Beach, California, USA, pp. 2-9.
Examiner	Date Considered	
Theresa M. Dougherty	7/7/04	

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Form 1449 (Modified)	Patent Docket No. SRI1P026/US-4152-2	Application No. 09/619,842
Information Disclosure Statement By Applicant	Applicant: Pei et al.	Technology Center 2000
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	B4	Hirose, S., Biologically Inspired Robots: Snake-like Locomotors and Manipulators, "Development of the ACM as a Manipulator", Oxford University Press, New York, 1993, pp.170-172.
	B5	Hunter, I., S. Lafontaine, J. Hollerbach, and P. Hunter, "Fast Reversible NiTi Fibers for Use in MicroRobotics," Proc. 1991 IEEE Micro Electro Mechanical Systems-MEMS '91, Nara, Japan, pp.166-170.
	B6	Hunter, I.W., and S. Lafontaine, "A Comparison of Muscle with Artificial Actuators", Technical Digest of the IEEE Solid-state Sensor and Actuator Workshop, Hilton Head, South Carolina, June 22-25, 1992, pp.178-185.
	B7	Kawamura, S., K. Minami, and M. Esashi, "Fundamental Research of Distributed Electrostatic Micro Actuator," Technical Digest of the 11th Sensor Symposium, pp. 27-30(1992).
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	B10	Liu, Y., T. Zeng, Y.X. Wang, H. Yu, and R. Claus, "Self-Assembled Flexible Electrodes on Electroactive Polymer Actuators," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 284-288.
	B11	Olsson, A., O. Larsson, J. Holm, L. Lundblad, O. Ohnman, and G. Stemme. 1997. "Valve-less Diffuser Micropumps Fabricated using Thermoplastic Replication," Proc. IEEE Micro Electro Mechanical Systems, Nagoya, Japan, pp. 305-310 (January 26-30, 1997).
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	C3	Su, J., Z. Ounaies, J. S. Harrison, Y. Bara-Cohen and S. Leary, "Electromechanically Active Polymer Blends for Actuation," Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference, March 6-8, 2000, Newport Beach, California, USA, pp. 65-72.
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	C5	Winters, J., "Muscle as an Actuator for Intelligent Robots," Robotics Research: Trans. Robotics International of SME, Scottsdale, AZ (August 18-21, 1986).
	C6	Zhang, Q. M., V. Bharti, Z.-Y. Cheng, T.-B. Xu, S. Wang, T. S. Ramotowski, F. Tito, and R. Ting, "Electromechanical Behavior of Electroactive P(VDF-TrFE) Copolymers," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 134-139.
	C7	Zhang, Q. M., Z.-Y. Cheng, V. Bharti, T.-B. Xu, H. Xu, T. Mai, and S. J. Gross, "Piezoelectric And Electrostrictive Polymeric Actuator Materials," Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference, March 6-8, 2000, Newport Beach, California, USA, pp. 34-50.
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	D2	Kornbluh, R., R. Pelrine, Jose Joseph, Richard Heydt, Qibing Pei, Seiki Chiba, 1999. "High-Field Electrostriction Of Elastomeric Polymer Dielectrics For Actuation", <i>Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices</i> , March 1-2, 1999, Newport Beach, California, USA. pp. 149-161.
	D3	Kornbluh, R., R. Pelrine, Q. Pei, S. Oh, and J. Joseph, 2000. "Ultrahigh Strain Response of Field-Actuated Elastomeric Polymers," <i>Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference</i> , March 6-8, 2000, Newport Beach, California, USA, pp. 51-64.
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	D5	Pelrine, R., R. Kornbluh, J. Joseph, and S. Chiba, "Electrostriction of Polymer Films for Microactuators," <i>Proc. IEEE Tenth Annual International Workshop on Micro Electro Mechanical Systems</i> , Nagoya, Japan, January 26-30, 1997, pp. 238-243.
	D6	Pelrine, R., J. Eckerle, and S. Chiba, "Review of Artificial Muscle Approaches," invited paper, in <i>Proc. Third International Symposium on Micro Machine and Human Science</i> , Nagoya, Japan, October 14-16, 1992
	D7	Pelrine, R., Roy Kornbluh, Jose Joseph, Qibing Pei, Seiki Chiba "Recent Progress in Artificial Muscle Micro Actuators," , SRI International, Tokyo, 1999 MTH/NEEDOIMNIC, 1999
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Thomas M. Dougherty	7/2/04	

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	E8	Bharti, V., H. S. Xu, G. Shanthi, and Q. M. Zhang, "Polarization and Structural Properties of High Energy Electron-Irradiated Poly(vinylidene fluoride-trifluoroethylene) Copolymer Films," to be published in <i>J. Appl. Phys.</i> (2000).
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	F2	Cheng, Z.-Y., T.-B. Xu, V. Bharti, S. Wang, and Q. M. Zhang, "Transverse Strain Responses In The Electrostrictive Poly(Vinylidene Fluoride-Trifluoroethylene) Copolymer," <i>Appl. Phys. Lett.</i> Vol 74, No. 13, pp. 1901-1903, March 29, 1999.
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	F7	Kaneto, K., M. Kaneko, Y. Min, and A.G. MacDiarmid. 1995. "Artificial Muscle: Electromechanical Actuators Using Polyaniline Films," <i>Synthetic Metals</i> 71, pp. 2211-2212, 1995
	F8	Kondoh Y., and T. Ono. 1991. "Bimorph Type Actuators using Lead Zinc Niobate-based Ceramics," <i>Japanese Journal of Applied Physics</i> , Vol. 30, No. 9B, pp. 2260-2263, September 1991.
	F9	Lawless, W. and R. Arenz, "Miniature Solid-state Gas Compressor," <i>Rev. Sci Instrum.</i> , 58(8), pp.1487-1493, August 1987
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	F11	Ohara, K., M. Hennecke, and J. Fuhrmann, "Electrostriction of polymethylmethacrylates," <i>Colloid & Polymer Sci.</i> Vol 280, 164-168 (1982).
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	G10	Su, J., Q. M. Zhang, C. H. Kim, R. Y. Ting, and R. Capps, "Effects of Transitional Phenomena on the Electric Field induced Strain-electrostrictive Response of a Segmented Polyurethane Elastomer," pp. 1363-1370, January 20, 1997.
	G11	Tobushi, H., S. Hayashi, and S. Kojima, "Mechanical Properties of Shape Memory Polymer of Polyurethane Series," In <i>JSME International Journal</i> , Series I, Vol.35, No.3, 1992
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	H9	Brock, D. L., "Review of Artificial Muscle based on Contractile Polymers," MIT Artificial Intelligence Laboratory, A.I. Memo No. 1330, Nov. 1991.
	H10	Kornbluh, R. D and R. E. Pelrine., "Dexterous Multiarticulated Manipulator with Electrostrictive Polymer Artificial Muscle," ITAD-7247-QR-96-175, SRI Project Number 7247, Prepared for: Office of Naval Research, November 1996
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	H12	M. Greene and J. A. Willett, and Kornbluh, R., "Robotic systems," in ONR Report 32198-2, Ocean Engineering and Marine Systems 1997 Program (Dec. 1997)
	H13	Nguyen, T., J. A. Willett and Kornbluh, R., "Robotic systems," in ONR Ocean, Atmosphere, and Space Fiscal Year 1998 Annual Reports (Dec. 1998)

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Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449 (M dified)

Information Disclosures
Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No.
SR11P026/US-4152-2

Applicant:
Pei *et al.*

Filing Date
July 20, 2000

Application No.:
09/619,847

Group:
2743

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Examiner Thomas M. Dougherty	Date Considered 7/2/04	

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form 1449 (Modified)

Information Disclosure
Statement By Applicant

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Atty Docket No.

SRI1P026/US-4152-2

Applicant:

Pelrine, et al.

Filing Date

July 20, 2000

Application No.:

09/619,847

Group

2743

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A1						
	A2						

Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
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	B2							

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<i>Thomas M. Dougherty</i>	<i>7/7/04</i>	

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Form 1449 (Modified)

Information Disclosure Statement By Applicant

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Atty Docket No. SRIIP026/US-4152-3

Applicant: Pelrine *et al.*

Filing Date July 20, 2000

Application No.: 09/619,847

Group 2743

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U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
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	B						
	C						
	D						
	E						
	F						
	G						

Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
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Examiner <i>Thomas M. Dougherty</i>		Date Considered <i>7/2/04</i>

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No.	Application No.:
	SRI1P026/US-4152-2	09/619,847
	Applicant:	
	Pei, et al.	
	Filing Date	Group
	July 20, 2000	2743

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Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	K							
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Other Documents

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<i>[Signature]</i>	10-2-02	

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